# RENEWABLES WORKING GROUP REPORT
# Draft III, 8/5/96

## I. INTRODUCTION

The California Public Utilities Commission's December 20, 1995, decision on electric industry restructuring (D.95-12-063 as modified by D.96-01-009), referred to in this report as "the Decision," provides for the establishment of an enforceable "minimum renewables purchase requirement (MRPR)" within the overall resource mix supplying California's electricity. In its restructuring decision (p. 147), the Commission states a "commitment" to establishing policies that maintain California's resource diversity for existing resources and encourage the development of new renewable resources.

A Renewables Working Group formed on an ad hoc basis early in 1996 to address the major issues involved in the implementation of the California Public Utilities Commission's (CPUC) renewables policy. The group has been meeting on a bimonthly basis ever since, with a growing attendance that includes representatives from the renewable power industries, the major private and public electric utility companies in the state, state agencies, and consumer and environmental advocacy groups. A list of Working Group participants is included in appendix A. The Working Group has defined the major points that a comprehensive renewables program will have to address, and has debated the many approaches advanced for the design of the program. This dialogue has led to a better understanding on the part of all parties about how a program can be structured to work.

From the beginning, it was acknowledged that no one approach to developing a renewables policy to implement the Commission's restructuring decision would be agreed to by all participants in the Working Group. The Working Group invited all interested parties to submit comprehensive program proposals for the implementation of the CPUC's renewable energy policy. The Working Group specifically requested ***comprehensive program*** proposals in order to avoid a circumstance in which it would have a collection of limited-purpose proposals addressing a variety of pieces of a renewables program, but no way to understand how the pieces would fit together into an integrated, total program. The group has received six comprehensive program proposals from participating parties. Five of the six comprehensive proposals present strategies for the implementation of a program based on the MRPR approach. The sixth proposal is for a surcharge-funded program that distributes renewable production credits on the basis of a competitive bidding process. The Working Group also received two adjunct proposals that seek to support specific types of

technologies within the context of whatever overall renewables program is adopted. The eight proposals provide a variety of approaches to the development of a workable renewables policy for California, and illustrate the range of issues that must be addressed in formulating the program.

The Renewables Working Group report begins with a brief review of the existing legal and regulatory framework within which the policy must fit. This review is followed by a presentation of data and information relevant to the current status of the renewable energy industry in California. These data are provided in response to the Commissions request in the Roadmap Decision (pg. 31, D.96-03-022). The report then summarizes the Commission's renewables policy as articulated in the December 20, 1995 decision on restructuring, and the follow-up roadmap decision. The second section of the report presents abstracts of the six comprehensive program proposals and the two adjunct proposals that have been received by the Working Group.

The third section of the report considers some of the commonalities and differences among the proposals, and highlights areas of broad group consensus. The full proposals are presented in the fourth section of the report. Each proposal provides answers by the proposal sponsors to all of the implementation issues that are presented in Appendix B. Each proposal is followed by a series of one-hundred word statements submitted by Working Group participants commenting on the proposal, and indicating whether that party supports or opposes the proposal with reasons for their positions. The final section of the report contains appendices including a roster of Working Group participants, list of acronyms, a list of questions and issues identified in the Decision, and augmented by the working group, and a more detailed presentation of data on California renewables provided by the CEC.

## A. Existing Law and Regulations

The Commission and the California State Legislature have indicated that renewable resources provide environmental and fuel diversity benefits to California. Under Public Utilities Code Section 701.1(a), "a principal goal of electric . . . utility resource planning and investment shall be to minimize the cost to society of the reliable energy services that are provided by natural gas and electricity, and to improve the environment and to encourage the diversity of energy sources through . . . development of renewable energy resources, such as wind, solar, biomass, and geothermal energy." In calculating the cost-effectiveness of energy resources, the Commission is directed under Section 701.1(c) to include a value for any costs and benefits to the environment, including air quality. Section 701.4 makes it state policy for electric resource acquisition programs to recognize and include a value for the resource diversity provided by renewable resources. The Commission is further directed to set aside a portion of electric capacity needed for California renewable resources until it "completes an electric generation procurement methodology that values the environmental and diversity costs and benefits associated with various generation technologies." (Section 701.3) The

Commission has indicated that portions of the California public utilities code may change as restructuring proceeds.

In its restructuring decision, the Commission noted that the present mix of renewables on the system was driven by resource diversity interests on the part of utilities and the Commission's implementation of the Public Utility Regulatory Policies Act of 1978 (PURPA), which encouraged the growth of independent power production in general, and renewables in particular, during the 1980s. It is important to note that the existing laws and regulations, as well as the existing renewable energy industries in the state, developed within the context of the regulated monopoly utility structure that still is in effect. The challenge is to create a program that will allow the renewable energy industries to adapt to a restructured electric utility environment based on the principle of competition.

## B. Renewable Energy Production in California During the 1990s

Tables I.1 and I.2 present disaggregated data on California renewables generation and California renewables supply for the 1990 to 1994 period. Data for 1995 are not yet available. Utility-owned renewables, renewable QF-sales, renewable self-generation, and renewables imports are all estimated, and renewable resource-specific data are provided. In addition, data on total generation, retail sales, and retail revenues are also listed. These data are presented both to respond to the CPUC's directions, and so that each of the proposals contained in this report will use a consistent set of data to define their proposals.

The first table presents statewide data. The second table presents the same categories of information, but covers only the aggregate data for the IOU's serving California. Appendix C, which is supplied by the California Energy Commission, presents utility-specific renewables data for the three largest IOUs serving the state (SCE, SDG&E and PG&E).

The renewables data contained in these tables were produced by a joint effort of the California Energy Commission and the three largest IOUs (SCE, SDG&E, and PG&E). Each of these IOUs submitted confidential[1] data to the CEC on utility generation, QF purchases, and imports. CEC staff provided similar data from the CEC's database (whose sources include FERC forms, the CEC's Quarterly Fuels and Energy Report data-base, and the IOUs' quarterly small power production reports to the CPUC), in addition to estimates for self-generation (checked against IOU estimates, when available). Given the amount of estimation involved in the compilation of the available data for this purpose, the data contained in these tables should be considered estimates rather than a precise compilation of measured actual

[1] Confidentiality constraints to protect independent producers selling energy to the IOUs require that the data for the three large IOUs not be reported by individual utility. Therefore, all utility-specific data supplied by the IOUs to the CEC is confidential. The CEC used this confidential data to create the aggregate IOU data provided in the second table.

generation. The IOU-specific data supplied in Appendix C come solely from public CEC sources, and therefore differ from those provided in this section. Specifically, the data contained in the Appendix were not validated by the IOUs, and are therefore not as accurate as the data supplied in Tables I.1 and I.2.

Renewables generation is disaggregated by resource type, including hydroelectric, geothermal, wind, biomass, and solar. Where appropriate, distinctions are made between in-state renewable energy facilities and out-of-state facilities serving California load. The solar thermal generation data apply a 25% derating factor to the total output of the solar thermal power-plants to account for natural-gas back-up. An estimate for the amount of Pacific Northwest hydro imported into the state is obtained by assuming 80% of the total economy energy imports from this region come from hydroelectric facilities.

## C. Commission Goals for Renewables in Restructuring

In its restructuring decision, the Commission stated its "commit[ment] to establishing restructuring policies which maintain California's resource diversity for existing resources as well as encourage development of new renewable resources" (D.95-12-063 as modified by D.96-01-009, p. 147). The Commission also indicated a need to find policy mechanisms for the achievement of societal goals, many mandated by the state legislature, that do not put utilities at a disadvantage in the move toward a more market-based electric services industry (ibid. p. 145). These policies are to be consistent with the overall goals of restructuring, which includes placing “sustainable, downward pressure on the cost of electricity to all classes of California ratepayers.”

To meet these goals, the Commission proposed “the establishment of a target level of generation from renewable resources. This target will be backed by a meaningful penalty for noncompliance” (ibid. p. 146). Later, the decision states that the Commission “continues to believe that a minimum renewables purchase requirement is the best approach to meet our resource diversity goals” (ibid. p. 150-151). The Commission noted that it would be a "condition of certification" for all obligated entities. "We prefer that the requirement be set at the same level for all electric utilities on a statewide basis, but recognize that it may be appropriate to develop a transitional strategy given the current resource portfolios of some utilities" (ibid. p. 150). Credits for meeting this requirement would be tradable "in order to allow retail providers the most flexibility in meeting this requirement." The Commission indicated that it "may be appropriate to establish floors for certain technology types, in order to maintain the diversity of our renewable resources" (ibid. p. 151).

The Commission noted that the market-based approach "will allow buyers and sellers to search the market for the best renewables bargains and to internalize such costs in their prices without the need for a surcharge to fund renewables development. Establishing a surcharge to fund new renewables development would require some sort of prescribed allocation

mechanism or bidding procedure to disperse the funds. We could use an administrative approach to ensure compliance, but after our experience in the BRPU we are hesitant to do so. The minimum renewables requirement approach will allow the market to provide the most cost-effective renewable resources, without our intervention" (ibid. p. 151).

In terms of timing, the Commission stated that “we would expect that these minimum renewables levels would be in place beginning in 1998 and continuing through 2000, at which point we would revisit whether the requirement should be modified.” With respect to stranded costs, the Commission also stated: “Allowing providers to trade in order to meet the renewables requirement may also serve to minimize the stranded costs associated with existing Qualifying Facility (QF) contracts by providing new markets for QFs’ power” (ibid. p. 151).